

DOCUMENT RESUME

ED 308 641

EC 220 504

TITLE Task Listing for Piano Technology for the Visually Impaired. Competency-Based Education.

INSTITUTION Henrico County Public Schools, Glen Allen, VA. Virginia Vocational Curriculum Center.; Virginia School for the Deaf and Blind, Hampton.; Virginia State Dept. of Education, Richmond. Div. of Vocational and Adult Education.

PUB DATE 86

NOTE 25p.

AVAILABLE FROM Virginia Vocational Curriculum and Resource Center, 2200 Mountain Rd., Glen Allen, VA 23060-2208 (\$3.00).

PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.

DESCRIPTORS *Blindness; Equipment Maintenance; *Job Skills; Music; Postsecondary Education; Secondary Education; Sequential Learning; Skilled Occupations; *Task Analysis; *Visual Impairments; *Vocational Education

IDENTIFIERS *Pianos

ABSTRACT

This task listing was developed for use in Piano Technology, a course offered to visually impaired students at the Virginia School for the Deaf and Blind. The listing is intended to be used with the "Trade and Industrial Education Service Area Resource Guide" in the implementation of competency-based education for this population. The major portion of the document is divided into "Duty Areas," each of which contains a listing of tasks. These Duty Areas are: overviewing piano technology, explaining the history and development of the piano, removing the trimmings for the grand and vertical piano, tuning the instrument, servicing the action, servicing the strung back, servicing the keyboard, servicing the damper section for grand and vertical pianos, handling the instrument, and managing the business. Also provided are a course description and task/competency sequence. (DB)

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Task Listing for Piano Technology for the Visually Impaired

Commonwealth of Virginia
Department of Education
Divisions of Vocational and Adult Education
Richmond, Virginia 23216

1986

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APPLICATION OF TASK LISTING

This task listing is based on the following Dictionary of Occupational Titles (DOT) job titles contained in the occupational domain of Piano Technology:

Piano Technician 730.281-038

Piano Tuner 730.361-010

Therefore, this task listing is useful in developing and selecting instructional materials and in implementing competency-based education for the following course:

Piano Technology

Competencies in this document can be mastered by both the visually impaired and non-handicapped student. However, additional competencies may be added for the non-visually impaired. Additional information concerning the application and use of this publication may be obtained from the following office:

Trade and Industrial Education Service
Division of Vocational and Adult Education
Department of Education
P.O. Box 6Q
Richmond, Virginia 23216

TASK LISTING
FOR
PIANO TECHNOLOGY
FOR THE
VISUALLY IMPAIRED

Developed by
The Virginia School for the
Deaf and Blind
at Hampton

and

Virginia Vocational Curriculum Center
Department of Vocational and Community Education
Henrico County Public Schools
Glen Allen, Virginia 23060

in Cooperation with

Commonwealth of Virginia
Department of Education
Divisions of Vocational and Adult Education
Richmond, Virginia 23216

1986

ACKNOWLEDGEMENTS

This task listing is the result of the interest, time, and labor of the developer, Mr. William A. Carr, Piano Technology Instructor at the Virginia School for the Deaf and Blind at Hampton.

The contributions of Mr. Leon Kerry, Dr. Samuel T. Vassar, and Mr. Henry G. Matthews, all of Norfolk State University are gratefully acknowledged.

Also recognized for their cooperative efforts are Mrs. Elnora Lane, Dr. Philip Bellefleur, Mr. Stewart Bowden, and Mr. Edward Pearson of the Virginia School for the Deaf and Blind at Hampton.

Mr. Stanley Oliver, Mr. Tony Mana, Mr. Rolland Stiefel, and other members of the Piano Technicians Guild are recognized for their help in the development of this publication. The efforts of Mr. Edward Griffin and Mr. James Griffin, Piano Technology Instructors, are greatly appreciated.

Gratitude is also expressed to Dr. Maude Goldston and Mr. Roy Carter of the State Department of Education as well as to Dr. Kay Brown, Supervisor, Vocational Curriculum Development.

The editorial revisions and organization necessary to prepare the manuscript for publication were performed by the Virginia Vocational Curriculum Center, administered by the Henrico County Public Schools, Department of Vocational and Community Education:

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Special recognition is given to the students of the Henrico Trade Center of the Henrico County Public Schools, Department of Vocational and Community Education. Under the supervision of William D. Burton, printing instructor, these students printed, assembled, packaged, and prepared the guide for distribution.

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INTRODUCTION AND USE

One of the major characteristics of competency-based (CBE) education is that the course content is based upon actual jobs or tasks performed by the worker. In Virginia, the Department of Education has established standards for competency-based education. According to these standards, competencies must be role-relevant and based upon appropriate research. This standard states:

Role-relevant competencies are identified and stated.

The competencies, with standards, will be identified through V-TECS, IDECC, and other appropriate research. Advisory committees should be used to review competencies and standards. Competencies in the affective domain will be included. Role-relevant competencies for occupational preparation programs are those that specifically relate to the occupation for which the student is being prepared, as well as to the personal needs of the student. Role-relevant competencies are related also to orientation, exploration, and/or industrial arts experiences which have been identified for students.

Therefore, role-relevant jobs or tasks, called competencies in CBE, must be identified and validated before instructional materials are developed and subsequent instruction takes place.

This task listing is a specialized document developed for use in Piano Technology, a course offered to visually impaired students at the Virginia School for the Deaf and Blind at Hampton. Original development and research for this task listing were conducted by Mr. William Carr of the Virginia School for the Deaf and Blind at Hampton. The original development process also included the cooperative efforts of representatives of the Piano Technicians Guild, the Virginia State Department of Education, secondary school and college educators, local businesses, and the Virginia Vocational Curriculum Center. These representatives were also involved in validating the contents of this publication.

USE

This task listing is designed to be used in conjunction with the Trade and Industrial Education Service Area Resource guide in order to implement competency-based education. The service area resource contains information which pertains to all programs within Trade and Industrial Education. The four sections of the resource are titled: Occupational

Information, Student Organizations (VICA), Classroom Management Systems, and Recording Systems.

The contents of this document include a section of Duty Areas. Each Duty Area contains a listing of tasks. A course description and suggested teaching sequence are also incorporated in the document.

The following steps should be followed when using the task listing and service area resource to implement CBE in a vocational program or course:

Using the Resource:

1. Reviewing occupational information. Section I contains detailed information concerning the occupational domain, which may be used to give students a general overview of the career opportunities in the Trade and Industrial field. When setting up a specific program or course, study the application page on the inside front cover of the separate task listing to determine whether the task listing includes the occupational titles and courses for the local setting. Extract the needed occupational information from Section I.

Using the Piano Technology Listing:

2. Review tasks. Review the Duty Areas section to determine whether all task/competencies are included for the region or locality in which the course is offered. If additional tasks/competencies are required for the course, include them in the instructional program.
3. Review sequenced competencies. Review the task sequence. Revise the sequence if additional task/competencies have been identified or if the sequencing needs to be changed.
4. Develop performance objectives. Construct statements, using measurable terms for particular behaviors to be exhibited by a learner under specified conditions. Each identified task should have a corresponding performance objective.
5. Develop criterion-referenced measures. Construct criterion-referenced measures, tests, and assessment materials for each task. Develop criterion-referenced measures and tests for all additional competencies identified.
6. Develop enabling objectives. Identify all individual sub-goals that a learner must know or be able to do to complete each performance objective.
7. Develop instructional materials. Develop instructional materials such as student handouts, learning packages, modules, or lab exercise sheets. Review instructional materials currently being used to determine compatibility with the competencies identified for the course.

8. Identify instructional equipment and aids. Develop a list of tools, equipment, and supplies which aid in the performance of each task. Also, identify audiovisuals and reference materials which complement instruction of each task.

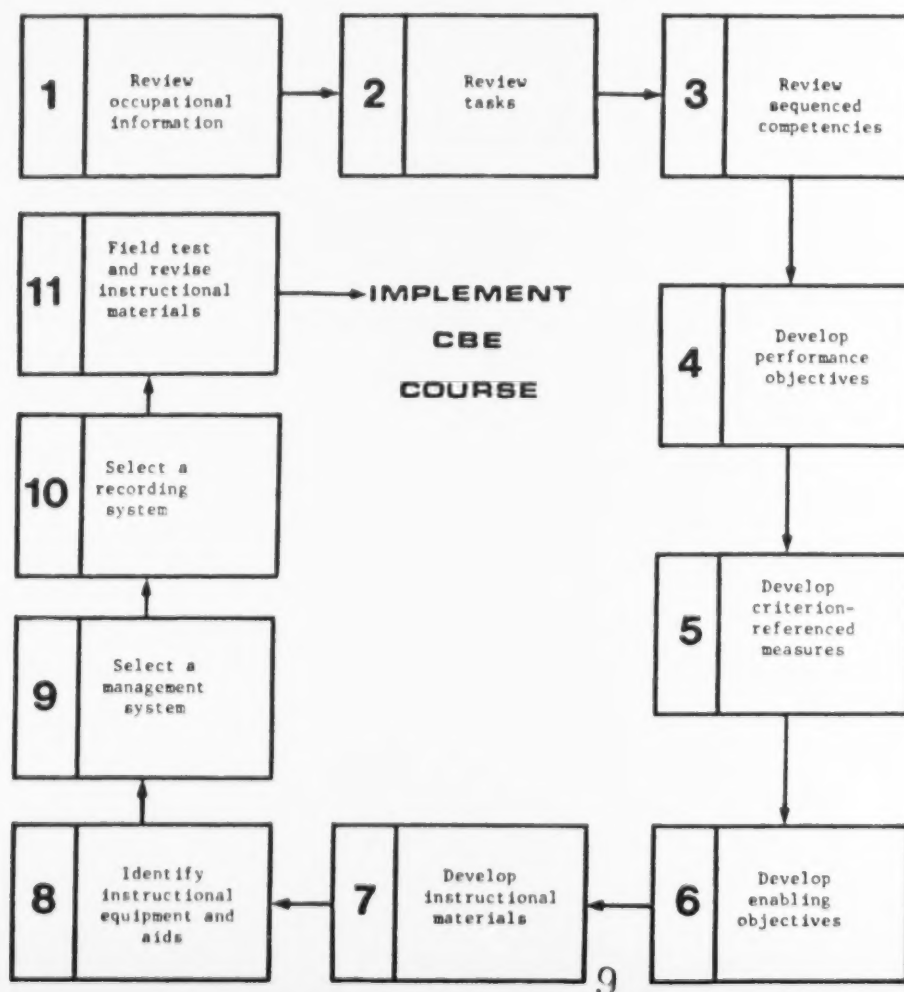
Using the Resources:

9. Select a management system. Select a classroom management or delivery system from Section III. Modification may be necessary to meet individual requirements. Information on the Vocational Industrial Club of America student organization is contained in Section II for ease of integration into classroom activities.
10. Select a recording system. Design or select a student recording system from Section IV. The decision to select a particular recording system will depend on program requirements and local administrative procedures. A variety of sample system designs has been included in the resource.

Field Testing:

11. Field test and revise instructional materials. This is the final step prior to the implementation of CBE materials in a vocational program.

The use of the service area resource and this task list for implementing CBE in a vocational program or course is illustrated by the following diagram:



The preceding procedure may be modified to meet local program requirements and needs. It is important to realize that these materials represent only one resource and that additional materials may be necessary to meet local or regional standards.

DUTY AREAS

DUTY AREA

1. Overviewing Piano Technology
2. Explaining the History and Development of the Piano
3. Removing the Trimmings for the Grand and Vertical Piano
4. Tuning the Instrument
5. Servicing the Action
6. Servicing the Strung Back
7. Servicing the Keyboard
8. Servicing the Damper Section for Grand and Vertical Piano
9. Handling the Instrument
10. Managing the Business

DUTY AREA:**I. OVERVIEWING PIANO TECHNOLOGY****TASK/COMPETENCY**

- 1.1 Identify course expectations
- 1.2 Identify personal traits and related skills in piano technology
- 1.3 Identify major areas of specialization in piano technology
- 1.4 Explain advantages and disadvantages of piano technology as a career
- 1.5 Participate in VICA activities

DUTY AREA: 2. EXPLAINING THE HISTORY AND DEVELOPMENT OF THE PIANO

TASK/COMPETENCY

- 2.1 Trace the development of stringed instruments prior to the evolution of the piano
- 2.2 Identify significant factors which led to the evolution of the piano
- 2.3 Evaluate Cristofori's piano
- 2.4 Explain the significance of the contributions of Zumpe, Chickering, Steinway, and Pate
- 2.5 Explain the adoption of universal low

DUTY AREA: 3. REMOVING THE TRIMMINGS FOR THE GRAND AND VERTICAL PIANO

TASK/COMPETENCY

- 3.1 Remove lid and supporting prop on grand piano
- 3.2 Remove music racks on grand piano
- 3.3 Remove key slips on grand piano
- 3.4 Remove fall boards on grand piano
- 3.5 Remove key blocks on grand piano
- 3.6 Remove lyres on grand piano
- 3.7 Remove foot pedals on grand piano
- 3.8 Remove lids on vertical piano
- 3.9 Remove fall board on vertical piano
- 3.10 Remove key slips on vertical piano
- 3.11 Remove key blocks on vertical piano
- 3.12 Remove bottom board on vertical piano

DUTY AREA: 4. TUNING THE INSTRUMENT

TASK/COMPETENCY

- 4.1 Tune unisons
- 4.2 Tune octaves
- 4.3 Tune the temperament smooth
- 4.4 Tune the equal temperament
- 4.5 Tune the outside and inside fourths and fifths
- 4.6 Tune with chromatic forks
- 4.7 Tune two pianos together
- 4.8 Use proofs in tuning
- 4.9 Tune to pipe organ

DUTY AREA: 5. SERVICING THE ACTION

TASK/COMPETENCY

- 5.1 Correct heat and moisture problems in the action
- 5.2 Regulate the action
- 5.3 Remove and replace the action (vertical)
- 5.4 Remove and replace the action (grand)
- 5.5 Clean the action
- 5.6 Resurface the hammers
- 5.7 Lubricate the action
- 5.8 Replace bridle straps
- 5.9 Size the hammer
- 5.10 Glue on grand hammers
- 5.11 Glue on vertical hammers
- 5.12 Prepare new hammers
- 5.13 Replace the hammer rail
- 5.14 Control insects and animal pests

DUTY AREA: 6. SERVICING THE STRUNG BACK**TASK/COMPETENCY**

- 6.1 String the strung back
- 6.2 Replace bass strings
- 6.3 Replace treble strings
- 6.4 Trouble shoot foreign sounds
- 6.5 Chip the strung back
- 6.6 Clean the sound-board
- 6.7 Establish sound-board crown
- 6.8 Skim the sound-board

DUTY AREA: 7. SERVICING THE KEYBOARD

TASK/COMPETENCY

- 7.1 Correct heat and moisture problems in keybed
- 7.2 Repair broken keys
- 7.3 Regulate the capstans
- 7.4 Felt the keybed
- 7.5 Level the keyboard
- 7.6 Replace key covers (ivories and ebonies)
- 7.7 Establish key-dip
- 7.8 Fasten the key-blocks
- 7.9 Fit the key-frame (grand)
- 7.10 Locate the key-slip
- 7.11 Space the keys
- 7.12 Control insects and animal pests

DUTY AREA: 8. SERVICING THE DAMPER SECTION FOR GRAND AND VERTICAL PIANO

TASK/COMPETENCY

- 8.1 Regulate the damper
- 8.2 Remove the damper action (grand)
- 8.3 Space damper level
- 8.4 Arrange damper head
- 8.5 Condition damper wires and positions
- 8.6 Condition damper flange and positions
- 8.7 Use damper-lever gauge
- 8.8 Regulate the damper lifting distance
- 8.9 Regulate the damper-level springs and weights
- 8.10 Correct damping
- 8.11 Replace old dampers
- 8.12 Correct noisy dampers
- 8.13 Regulate the capstans and lifters

DUTY AREA: 9. HANDLING THE INSTRUMENT

TASK/COMPETENCY

- 9.1 Prepare the instrument for transit
- 9.2 Identify proper moving procedures
- 9.3 Select the proper equipment for moving

DUTY AREA: 10. MANAGING THE BUSINESS**TASK/COMPETENCY**

- 10.1 Perform mathematical computations
- 10.2 Demonstrate telephone courtesy
- 10.3 Prepare and send reminder cards
- 10.4 Estimate the work
- 10.5 Investigate aspects of entrepreneurship

PROGRAM AND COURSE DESCRIPTIONS

Description:

Piano Technology is a vocational area uniquely suited, with few adaptations, to the skills and abilities of the visually impaired. Individualized instruction and self-paced learning are emphasized. Students learn to perform various operations involved in tuning a piano and study the history and development of the instrument. Entrepreneurship skills are also included in the course of study. The course is offered for two hours daily and is recommended for students in grades 9-12.

SUGGESTED GRADE LEVEL:

9-12

TASK/COMPETENCY SEQUENCE

- 1.1 Identify course expectations
- 1.2 Identify personal traits and related skills in piano technology
- 1.3 Identify major areas of specialization of piano technology
- 1.4 Explain advantages and disadvantages of piano technology as a career
- 1.5 Participate in VICA activities
- 2.1 Trace the development of stringed instruments prior to the evolution of the piano
- 2.2 Identify significant factors which led to the evolution of the piano
- 2.3 Evaluate Cristofori's piano
- 2.4 Explain the significance of the contributions of Zumpe, Chickering, Steinway, and Pate
- 2.5 Explain the adoption of universal law
- 3.8 Remove lids on vertical piano
- 3.9 Remove fallboard on vertical piano
- 4.1 Tune unisons
- 3.10 Remove key slips on vertical piano
- 3.11 Remove key blocks on vertical piano
- 3.12 Remove bottom board on vertical piano
- 5.2 Regulate the action
- 5.6 Resurface the hammers
- 5.3 Remove and replace action (vertical)
- 5.5 Clean the action
- 5.8 Replace bridle straps
- 5.1 Correct heat and moisture problems in the action
- 5.14 Control insects and animal pests
- 5.7 Lubricate the action
- 5.12 Prepare new hammers
- 5.11 Glue on vertical hammers
- 6.6 Clean the sound-board
- 6.3 Replace treble strings
- 6.2 Replace bass strings

- 6.1 String the strung back
- 6.5 Chip the strung back
- 6.4 Trouble-shoot foreign sounds
- 6.7 Establish sound-board crown
- 6.8 Skim the sound-board
- 7.1 Correct heat and moisture problems in keybed
- 7.2 Repair broken keys
- 7.3 Regulate the capstans
- 7.7 Establish key-dip
- 7.4 Felt the keybed
- 7.5 Level the keyboard
- 4.2 Tune octaves
- 3.2 Remove music racks on grand piano
- 3.3 Remove key slips on grand piano
- 4.3 Tune the temperament smooth
- 5.10 Glue on grand hammers
- 5.13 Replace the hammer rail
- 5.4 Remove and replace the action (grand)
- 3.4 Remove fall boards on grand piano
- 3.5 Remove key blocks on grand piano
- 3.6 Remove lyres on grand piano
- 3.7 Remove foot pedals on grand piano
- 5.9 Size the hammer
- 7.6 Replace key covers (ivories and ebonies)
- 7.8 Fasten the key-blocks
- 7.10 Locate the key-slip
- 7.9 Fit the key-frame (grand)
- 4.5 Tune the outside and inside fourths and fifths
- 4.8 Use proofs in tuning
- 4.4 Tune the equal temperament
- 7.11 Space the keys
- 3.1 Remove lid and supporting prop on grand piano
- 8.1 Regulate the damper
- 7.12 Control insects and animal pests
- 8.2 Remove the damper action (grand)
- 8.3 Space damper lever
- 8.4 Arrange damper heads
- 8.5 Condition damper wires and positions
- 8.6 Condition damper flange and positions
- 8.7 Use damper-lever gauge
- 8.8 Regulate the damper lifting distance
- 8.9 Regulate the damper-lever springs and weights
- 8.10 Correct damping
- 8.11 Replace old dampers
- 8.12 Correct noisy dampers
- 8.13 Regulate the capstans and lifters
- 4.6 Tune with chromatic forks
- 4.7 Tune two pianos together
- 4.9 Tune to pipe organ
- 9.1 Prepare the instruments for transit
- 9.2 Identify proper moving procedures
- 9.3 Select proper equipment for moving
- 10.1 Perform mathematical computations

- 10.2 Demonstrate telephone courtesy
- 10.3 Prepare and send reminder cards
- 10.4 Estimate the work
- 10.5 Investigate aspects of entrepreneurship

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